

REMARKS/ARGUMENTS

Claims 1-7 and 12 have been withdrawn from consideration and claims 8, 9 and 13-17 rejected in the outstanding Official Action. Applicants have cancelled without prejudice claim 9 amended claim 8 to include the limitations of claim 8 and added newly written claims 18-21. Accordingly, claims 8 and 13-21 are the only claims remaining in this application.

The Examiner's consideration of the prior art listed in Applicants' previously filed Information Disclosure Statement is very much appreciated.

Claims 8, 9 13 and 17 stand rejected under 35 USC §102 as being anticipated by Charbonnet (U.S. Patent 5,209,881). In section (b) on page 3 of the Official Action, the Examiner contends that Charbonnet's disclosure "corresponds to having a constant curing temperature at certain points in the oven." The Examiner contends that this is a disclosure of Applicants' claimed "constant curing temperature" in the vessel.

The Examiner's contention is respectfully traversed, as Charbonnet primarily suggests the adjustment of the panel speed in response to temperature readings so that the gelation point occurs at a specific spot within the oven. This particular spot is not only determined by the temperature (it would occur at an earlier point if there was a higher temperature) but by the speed of the panel through the chamber. Clearly, the gelation point could be adjusted by speeding up or slowing down the panel's progress through the chamber just as changes in temperature distribution could change the gelation location. This is confirmed in Charbonnet at column 4, lines 43-48.

While Charbonnet does disclose adjusting the oven heating panels in order to move the gelation point of the curing panels one way or another along the oven's path, it does not appear

to have any discussion of maintaining a “constant curing temperature” in the oven, let alone any particular temperature profile in the oven. Should the Examiner believe otherwise he is requested to specifically indicate the column and line number of where Charbonnet contains any such teaching.

Applicants have amended claim 8 by adding the subject matter of claim 9 thereto so that it specifically requires “processing” of temperature readings and then “adjusting” the temperature of the vessel to maintain a constant curing temperature. It is submitted that this is not the case as disclosed in Charbonnet and any further allegation of anticipation is respectfully traversed.

The Examiner correctly suggests at the end of section 3 on page 4 of the Official Action that Charbonnet teaches that it is desirable to keep the gelation point in a specific spot within the oven. However, the Examiner in the subsequent parenthetical expression suggests that “the gelation point is a specific temperature which means that Charbonnet is controlling the oven to have a constant cure temperature” is simply incorrect and is not contained anywhere in the Charbonnet reference.

As those of ordinary skill in the art will well understand (and as is disclosed in Charbonnet), “gelation is an exothermic reaction and is detected as a peak temperature” (column 3, lines 37-38) but this is believed to be a peak temperature of the panel and not the surrounding air, which could be higher than or lower than the panel temperature. As the panel thickness varies, the temperature at the gelation point would vary as well. Furthermore, the heat given off by the exothermic reaction will vary as the panel thickness varies. The fact that the gelation point is at a specific location only means that the exothermic reaction has proceeded to

the gelation point and is a function of a number of factors including the average temperature in the vessel over the path of the panel. A specific location for the gelation point could occur with wild differences in temperature along the path of the panel or the path of the panel could encounter a relatively constant curing temperature.

Thus, the Examiner's conclusion that gelation taking place at a specific temperature "means that Charbonnet is controlling the oven to have a constant cure temperature" simply does not follow and exhibits an incorrect understanding of the process taught in Charbonnet.

As a result of the above, the Examiner has pointed to no disclosure in the Charbonnet reference suggesting the claim 8 process comprising the steps of "placing" the material in a temperature controlled vessel, "curing" the material while at the same time "monitoring" temperature readings and the temperature of at least a portion of the material using an infrared device, and "processing" the temperature readings and then "adjusting" the temperature of the vessel to maintain a constant curing temperature. Charbonnet does not teach all of these steps and therefore claim 8 cannot be anticipated by Charbonnet.

Similarly, independent claim 13, although worded slightly differently, still requires the sequence of steps set out in claim 8. Accordingly, claims 8 and 13 cannot be anticipated by the Charbonnet reference and any further rejection of these independent claims (and claim 17 dependent thereon) is respectfully traversed.

Claims 14 and 17 stand rejected under 35 USC §103 as unpatentable over Charbonnet, further in view of Whipple (U.S. Patent 6,132,084). As the Examiner admits on page 6, lines 2 and 3 of the Official Action, "Charbonnet does not teach the temperature across the whole of the material is measured." This admission by the Examiner is very much appreciated. The

Examiner cites Whipple as purportedly teaching the feature of maintaining “the temperature across the whole of the material” which is missing from Charbonnet. However, this assertion is without any basis in fact.

Whipple relates to domestic microwave ovens, with Charbonnet relating to the curing of large composite panels. First, it is not seen or discussed in the Official Action as to how or why one of ordinary skill in the art would look at a microwave oven which may or may not be heated throughout. It well known that heat in a microwave oven is generated only when the microwaves encounter material whose temperature can be raised by microwaves. Quite clearly, the oven is not “heated” but rather, the materials in the oven, if they are microwave sensitive, are heated. Thus, there is no heating of the oven except as a secondary heating from the materials being heated by microwaves.

There is no disclosure in either cited reference that microwaves will “heat” composite material or heat them to the extent that it facilitates curing of those composite materials. Since neither Charbonnet (as admitted by the Examiner) nor Whipple (because it is a microwave oven) monitor the temperature across the whole of the material, it seems clear that even in view of the combination of Charbonnet and Whipple, the subject matter of claims 14 and 17 is not disclosed.

Moreover, the Examiner does not provide a reasoned basis (or, as required by the Supreme Court in the *KSR* decision an explicit “analysis”) for combining the Charbonnet and Whipple references, especially in view of the Examiner’s admission regarding Charbonnet. Accordingly, any further rejection of claims 14 and 17 over the Charbonnet/Whipple combination is respectfully traversed.

Claim 15 stands rejected under 35 USC §103 as unpatentable over Charbonnet as previously applied to claim 13. The Examiner's admission that "Charbonnet does not teach that the material is cured in an autoclave" is very much appreciated. However, the Examiner draws the conclusion, without any support, that it would have been obvious to use an autoclave in the process of Charbonnet. The Examiner is requested to provide some support for his conclusion. Absent such support, any further rejection of claim 15 over Charbonnet by itself as being obvious is respectfully traversed.

The Examiner must also remember that Charbonnet does not teach a temperature controlled autoclave and instead teaches a speed controlled constant processing production line (which may or may not have substantial variations in temperature along the production line). Moreover, such a continuous production line would exclude the possibility of the use of an autoclave which, by definition, is fully enclosed in the manner of a pressure chamber. The whole point of Charbonnet is to maintain a gelation point at a specific location (between the entry into the oven and the panel departure from the oven) and the throughput speed is controlled so as to maintain this gelation point. As a result, the substitution of an autoclave for an open-ended production line oven would not be obvious to one of ordinary skill in the art, and indeed would be impossible.

Claim 16 stands rejected under 35 USC §103 as unpatentable over Charbonnet in view of Schenck (U.S. Patent 4,463,437). Inasmuch as claim 16 ultimately depends from claim 13, the above comments regarding claim 13 and the Charbonnet reference are herein incorporated by reference. The Examiner provides no reason for combining portions of Charbonnet and Schenck and also fails to provide any explanation of actually how the infrared video system of Schenck

would be combined with the oven of Charbonnet to maintain constant curing temperature. Because the production line oven of Charbonnet is completely different from a temperature controlled vessel and in Charbonnet it is the throughput speed which is primarily controlled, even if Charbonnet and Schenck were somehow combined, the subject matter of claim 16 would not be disclosed. How or where the Examiner believes either Charbonnet or Schenck teaches maintenance of a vessel's temperature at a constant curing temperature, whether by some other means or by the claimed infrared temperature measuring camera, is not seen and clarification requested.

Claims 8, 9, 13, 14, 15 and 17 stand rejected under 35 USC §103 as unpatentable over Handel (U.S. Patent 5,345,397) in view of Whipple. The Examiner's admission on page 8, section (a) that "Handel does not teach that the control system comprises an infrared device remote from the material" is very much appreciated.

As noted previously, Whipple is not a temperature controlled vessel, although the autoclave of Handel clearly is. While the Examiner uses the phrase "control system" (page 8, lines 3-4), this language is not part of Applicants' independent claim 8. Additionally there is still no reason as to why one of ordinary skill in the art would pick and choose elements from the Handel and Whipple references and then combine them in the manner of Applicants' claims. The Handel and Whipple patents do not operate in the same fields and the Whipple device is not a temperature controlled vessel. The Examiner has simply failed to meet his burden of providing some reason or rationale for picking and choosing elements from the Handel and Whipple references and then combining them in the manner of Applicants' independent claims 8 and 13 or claims dependent thereon.

As a result of the above, the combination of Handel and Whipple would not disclose or render obvious the subject matter of the independent claims or claims dependent thereon and any further rejection thereunder is respectfully traversed.

Claim 16 stands rejected under 35 USC §103 as unpatentable over Handel in view of Whipple and Schenck. Inasmuch as this rejection includes discussion of references previously cited, those previous discussions are herein incorporated by reference, especially in view of the fact that claim 16 depends from claim 13. The Examiner fails to provide any teaching or rationale as to why one of ordinary skill in the art would pick and choose elements from the Handel, Whipple and Schenck references and then combine them in the manner disclosed only in Applicants' dependent claim 16.

Applicants have included newly written claims 18-21. Each of these claims are ultimately dependent from claim 13 and are based upon further details of the specific invention disclosed in Applicants' specification. Claim 18 adds the limitation to claim 13 that the camera is "movably mounted" and this is discussed in detail in Applicants' specification, page 6, lines 1 and 2. Claim 19 indicates that the method of claim 16 includes the steps of selecting specific points on the component for taking readings and then directing the camera to those specific points and is disclosed on page 5, lines 6-10 with respect to hot spots. Claim 20 depends from claim 13 and limits the claim to the monitoring of the temperature of the pressure vessel prior to curing as well as during curing of the material (as discussed in the specification at page 5, lines 12-24). Finally, newly written claim 21 suggests that the temperature of the material is monitored to determine location and existence of voids during curing which is specifically

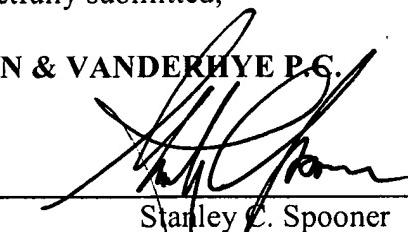
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January 21, 2009

described in the specification at page 5, lines 26-32. Entry and consideration of the newly written dependent claims 18-21 is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 8 and 13-21 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact Applicant's undersigned representative.

Respectfully submitted,

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